

3. (Twice Amended) An isolated polynucleotide encoding a polypeptide selected from the group consisting of:

- a) a polypeptide comprising the amino acid sequence of SEQ ID NO:1,
- b) a polypeptide comprising a naturally occurring amino acid sequence at least 98% identical to the amino acid sequence of SEQ ID NO:1, wherein the polypeptide has cytochrome P450 activity, and wherein the naturally occurring amino acid sequence comprises contiguous residues P42-L499 of SEQ ID NO:1, and
- c) a fragment of a polypeptide having the amino acid sequence of SEQ ID NO:1, wherein the fragment has cytochrome P450 activity, and wherein the fragment comprises contiguous residues P42-L499 of SEQ ID NO:1.

4. (As Once Amended) An isolated polynucleotide of claim 3, encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO:1.

5. An isolated polynucleotide of claim 4 consisting of the polynucleotide sequence of SEQ ID NO:2.

6. A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide of claim 3.

7. A cell transformed with a recombinant polynucleotide of claim 6.

9. (As Once Amended) A method for producing a polypeptide encoded by a polynucleotide of claim 3, the method comprising:

- a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide of claim 3, and
- b) recovering the polypeptide so expressed.

11. (Once Amended) An isolated polynucleotide selected from the group consisting of:

- a) a polynucleotide comprising the polynucleotide sequence of SEQ ID NO:2,
- b) a polynucleotide comprising a naturally occurring polynucleotide sequence at least 95% identical to the polynucleotide sequence of SEQ ID NO:2,
- c) a polynucleotide complementary to a polynucleotide of a),
- d) a polynucleotide complementary to a polynucleotide of b), and
- e) an RNA equivalent of a)-d).

13. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 11, the method comprising:

- a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and
- b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

14. A method of claim 13, wherein the probe comprises at least 60 contiguous nucleotides.

15. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 11, the method comprising:

- a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and
- b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

27. (As Once Amended) A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a sequence of claim 47, the method comprising:

- a) exposing a sample comprising the target polynucleotide to a compound, under conditions suitable for the expression of the target polynucleotide,
- b) detecting altered expression of the target polynucleotide, and
- c) comparing the expression of the target polynucleotide in the presence of varying amounts of the compound and in the absence of the compound.

28. A method for assessing toxicity of a test compound, said method comprising:
- a) treating a biological sample containing nucleic acids with the test compound;
 - b) hybridizing the nucleic acids of the treated biological sample with a probe comprising at least 20 contiguous nucleotides of a polynucleotide of claim 11 under conditions whereby a specific hybridization complex is formed between said probe and a target polynucleotide in the biological sample, said target polynucleotide comprising a polynucleotide sequence of a polynucleotide of claim 11 or fragment thereof;
 - c) quantifying the amount of hybridization complex; and
 - d) comparing the amount of hybridization complex in the treated biological sample with the amount of hybridization complex in an untreated biological sample, wherein a difference in the amount of hybridization complex in the treated biological sample is indicative of toxicity of the test compound.

46. (Once Amended) A polynucleotide of claim 11, selected from the group consisting of:
- a) a polynucleotide comprising the polynucleotide sequence of SEQ ID NO:2,
 - b) a polynucleotide complementary to the polynucleotide of a), and
 - c) an RNA equivalent of a)-b).

47. A polynucleotide of claim 3, encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:1.

48. (Once Amended) A polynucleotide of claim 3, encoding a polypeptide comprising a naturally occurring amino acid sequence at least 98% identical to the amino acid sequence of SEQ ID

NO:1, wherein the polypeptide has cytochrome P450 activity, and wherein the naturally occurring amino acid sequence comprises contiguous residues P42-L499 of SEQ ID NO:1.

49. (Once Amended) A polynucleotide of claim 11, selected from the group consisting of:

- a) a polynucleotide comprising a naturally occurring polynucleotide sequence at least 95% identical to the polynucleotide sequence of SEQ ID NO:2,
- b) a polynucleotide complementary to the polynucleotide of a), and
- c) an RNA equivalent of a)-b).

50. (Once Amended) A polynucleotide of claim 11, selected from the group consisting of:

- a) a polynucleotide comprising a naturally occurring polynucleotide sequence at least 98% identical to the polynucleotide sequence of SEQ ID NO:2,
- b) a polynucleotide complementary to the polynucleotide of a), and
- c) an RNA equivalent of a)-b).

51. (Twice Amended) An isolated polynucleotide of claim 52, selected from the group consisting of:

- a) a polynucleotide comprising at least 750 contiguous nucleotides of the polynucleotide sequence of SEQ ID NO:2,
- b) a polynucleotide complementary to the polynucleotide of a), and
- c) an RNA equivalent of a)-b).

52. (New) An isolated polynucleotide selected from the group consisting of:

- a) a polynucleotide comprising at least 750 contiguous nucleotides of the polynucleotide sequence of SEQ ID NO:2,
- b) a polynucleotide comprising nucleotides 843-1582 of SEQ ID NO:2,
- c) a polynucleotide complementary to the polynucleotide of a),
- d) a polynucleotide complementary to the polynucleotide of b), and
- e) an RNA equivalent of a)-d).

53. (New) An isolated polynucleotide of claim 52, selected from the group consisting of:
- a) a polynucleotide comprising nucleotides 843-1582 of SEQ ID NO:2,
 - b) a polynucleotide complementary to a polynucleotide of a), and
 - c) an RNA equivalent of a)-b).